

Beams and Applications Seminar Series

This ANL seminar series focuses on the physics, technology and applications of particle and photon beams. It is sponsored jointly by the ASD Division, the AWA group of the HEP Division, and the ATLAS group of the PHY Division

Bldg. 401, room A1100

(note location change)

Friday, January 26thth

1:30 PM

Michael J. Pellin

Mat. Sci / Chem, ANL

*Counting Atoms and Molecules –
A Proposed End-User Facility for LEUTL*

Host: Kwang-Je Kim

The combination of two unique ANL capabilities will produce a world-leading instrument for quantitative trace elemental and molecular analysis of samples whose dimensions can be nanoscale laterally and monolayer in depth. The combination of the LEUTL FEL (producing 0.1 mJ pulses of tunable VUV light between 190 nm and 50 nm) and the CHARISMA TOF-MS instrument will achieve detection limits for important light elements (C, O, N) over two orders of magnitude lower than currently available surface analytical techniques. This combination will also enable soft ionization technique for many molecules clusters of light elements allowing accurate and sensitive quantification of molecular materials for the first time. The capabilities will have significant implications for the study of problems such as molecular self-assembly, DNA analysis, and combinatorial chemistry, and electron induced desorption from cryogenic targets, a problem related to next generation accelerator development.

For more information visit

<http://www.aps.anl.gov/asd/physics/seminar.html>

Visitors from off-site please contact Debbie Briddick
(briddick@aps.anl.gov, 630-252-6620)
to arrange for a gate pass.